Food and Agriculture Organization of the United Nations

United Republic of Tanzania

FORESTS FOR A SUSTAINABLE FUTURE

EDUCATION MODULES FOR PRIMARY SCHOOLS

PUPILS' BOOK

MODULE 3

FORESTS AND THE CLIMATE

SHOUT
SHARE
IT

FORESTS FOR A SUSTAINABLE FUTURE

EDUCATION MODULES FOR PRIMARY SCHOOLS

PUPIL'S BOOK

MODULE 3
FORESTS AND THE CLIMATE

Published by
the Food and Agriculture Organization of the United Nations
and
Ministry of Natural Resources and Tourism

Required citation:
FAO and Ministry of Natural Resources and Tourism, the United Republic of Tanzania. 2024. *Forests for a sustainable future: education modules for primary schools – Pupil's book: Module 3 Forests and the climate*. Rome.
https://doi.org/10.4060/cc4633en

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) or Ministry of Natural Resources and Tourism (MNRT) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO or MNRT in preference to others of a similar nature that are not mentioned.

ISBN 978-92-5-137691-1 [FAO]
© FAO, 2024

Some rights reserved. This work is made available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode).

Under the terms of this licence, this work may be copied, redistributed and adapted for non-commercial purposes, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO endorses any specific organization, products or services. The use of the FAO logo is not permitted. If the work is adapted, then it must be licensed under the same or equivalent Creative Commons license. If a translation of this work is created, it must include the following disclaimer along with the required citation: "This translation was not created by the Food and Agriculture Organization of the United Nations (FAO). FAO is not responsible for the content or accuracy of this translation. The original English edition shall be the authoritative edition."

Disputes arising under the licence that cannot be settled amicably will be resolved by mediation and arbitration as described in Article 8 of the licence except as otherwise provided herein. The applicable mediation rules will be the mediation rules of the World Intellectual Property Organization http://www.wipo.int/amc/en/mediation/rules and any arbitration will be in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL)

Third-party materials. Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

Sales, rights and licensing. FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org. Requests for commercial use should be submitted via: www.fao.org/contact-us/licence-request. Queries regarding rights and licensing should be submitted to: copyright@fao.org.

Contents

Foreword v

Acknowledgements vi

Chapter 1. Weather, climate and forests 1

Lesson 1. What makes the weather? 3

Lesson 2. How do forests, weather and climate interact? 5

Lesson 3. How can trees cool the environment? 6

Lesson 4. Create a poster on why trees matter 7

Chapter 2. The greenhouse effect and climate change 9

Lesson 5. What is the greenhouse effect? 11

Lesson 6. Play a greenhouse effect game 13

Lesson 7. What can we do about the human-induced greenhouse effect? 14

Chapter 3. Photosynthesis 17

Lesson 8. Conduct a leaf experiment 19

Lesson 9. How does photosynthesis work? 20

Lesson 10. Run a photosynthesis relay race 23

Lesson 11. Play a photosynthesis guessing game 24

Chapter 4. Wood and other sources of renewable energy 27

Lesson 12. What are the sources of energy? 29

Lesson 13. Focus on fire 30

Lesson 14. What is renewable energy? 31

Chapter 5. Sustainable forest management 35

Lesson 15. Why do we need forests? 37

Lesson 16. Play a sustainability game 39

Lesson 17. Create a sustainable forestry Möbius strip 40

Chapter 6. Forest and beekeeping laws 43

Lesson 18. Why do we need forest laws? 45

Lesson 19. Allowed or not? 46

Lesson 20. Play a forest law guessing game 47

Chapter 7. The workof a forester **49**
Lesson 21. What does a forester do? 51
Lesson 22. What happens when we overuse forest resources? 52
Lesson 23. How do you become a forester? 53

Chapter 8. Forests and climate change – What we can do **55**
Lesson 24. Why do forests matter for climate change? 57
Lesson 25. Prepare a play or a poster about forests and climate 59
Lesson 26. Perform a play or exhibit a poster about forests and climate 60

Foreword

Teaching young people about protecting and sustainably managing forests is vital for our future.

Forests play important roles in our daily lives – they are a source of food, wood, medicines and energy for billions of people worldwide, and they host more than three-quarters of the world's terrestrial biodiversity. By sequestering carbon and influencing microclimates, forests help mitigate climate change; moreover, forests help communities adapt to climate change and increase their resilience to climate-related shocks.

The key to maintaining forests and their benefits over time is to manage them sustainably – this means ensuring that what is harvested in a forest is allowed to grow back and that the many values of forests are maintained over time. Today, however, people are increasingly disconnected from nature and lack awareness of forests and their benefits.

Forest education builds the knowledge, skills and shared values that underpin sustainable forestry and its contributions to sustainable development goals, such as those set out in the 2030 Agenda for Sustainable Development. In recent years, however, international forums have expressed concern that, in most countries, forest-related education is insufficient and outdated. The net result in a lack of awareness and understanding among people of all ages of the importance of forests.

Providing children with an understanding of the vital roles of forests is crucial for safeguarding natural resources for future generations. But the Global Assessment of Forest Education, published by the Food and Agriculture Organization of the United Nations (FAO) in 2022, reported that, in Africa, resources and learning materials for forest education in primary schools are absent or available to only a limited extent. The assessment also found that a lack of awareness-raising about nature in primary schools has contributed to a low level of interest in forest education.

It is essential that children in primary schools today learn about forests so they know why forests matter and how they can be used sustainably and thereby protected and maintained over time. Moreover, inspiring children from an early age about forests can help open new horizons and influence career pathways. When young people have a clear picture of forestry and the sector's role in solving sustainable development challenges, they are more likely to consider forestry as a viable career choice.

The education modules presented here are designed for children aged 9–12 in grades 3–5. They will increase the forest literacy of the children and, in the long term, enhance their capacity to make decisions in favour of sustainable forest use. The modules are inspired by the principles of the "education for sustainable development" (ESD) approach, which is based on learning methods that motivate and empower learners to make informed decisions, change their behaviour, and take responsible action for the benefit of the present and future generations. They use a more hands-on and interactive approach than standardized education methods.

The modules have been developed by the Ministry of Natural Resources and Tourism of the United Republic of Tanzania in the framework of the project, "Forests for a Sustainable Future: Educating Children", with technical contributions by FAO and the support of the German Federal Ministry for Food and Agriculture.

Nyabenyi Tito Tipo

FAO Representative in the
United Republic of Tanzania

November, 2023

Acknowledgements

These education modules have been developed under the supervision of the Division of Forestry and Beekeeping in the Ministry of Natural Resources and Tourism of the United Republic of Tanzania, with contributions and technical guidance from the FAO Forestry Division, the FAO Subregional Office for Southern Africa, and the FAO Representation in the United Republic of Tanzania.

The modules are the result of an extensive revision and validation process involving the following Tanzanian organizations: Ministry of Education and Vocational Training; Sokoine University of Agriculture; Mtemi Mazengo Primary School; College of African Wildlife Management – Mweka; Tanzania Forest Industries Training Institute; Beekeeping Training Institute; Mji Mpya Secondary School; Mhonda Teachers College; Kikunyu Secondary School; University of Dodoma; Tanzania Institute of Education; Jordan University; Mazimbu A Primary School; Ministry of Higher Education, Science and Technology; Vocational Education and Training Authority; Forestry Training Institute Olmotonyi; National College of Tourism; and Tanzania Forestry Research Institute.

Sincere thanks go to all FAO staff and consultants for their valuable inputs to the development of these education modules, especially Maria De Cristofaro, Michela Conigliaro, Geofrey Bakanga, Jill Hannon, Fiona Winward, Greta Castelli, Alastair Sarre and Lucia De Canio. Special appreciation goes to Christoph Rullmann, Ulrike Schuth, Beate Kohler and Celia Schroeckh at the German Association for the Protection of Forests and Woodlands (SDW.de) for their support in the development of the activities. Thanks to Stefanie Steinebach at the University of Applied Forest Sciences, who reviewed the modules from a pedagogic and didactic perspective. Acknowledgement for their inputs also goes to education experts Christina Kifunda at the University of Dodoma and Jasson Kalugendo at the University of Dar es Salaam and to forestry experts Siima Bakengesa at the Tanzania Forestry Research Institute and John Wanjala and Emma Nzunda at the Ministry of Natural Resources and Tourism, United Republic of Tanzania.

Finally, thanks to the teachers and pupils of Gogo Primary School, Dar es Salaam, and Mazimbu A Primary School, Morogoro, for participating in the piloting of the modules.

CHAPTER 1

WEATHER, CLIMATE AND FORESTS

© FAO/Luis Tato

In this chapter, you will learn how to:

1. define the concepts of climate and weather and explain the difference between the two;
2. explain the relationship between forests and climate; and
3. describe how trees affect local temperatures.

LESSON 1

WHAT MAKES THE WEATHER?

1

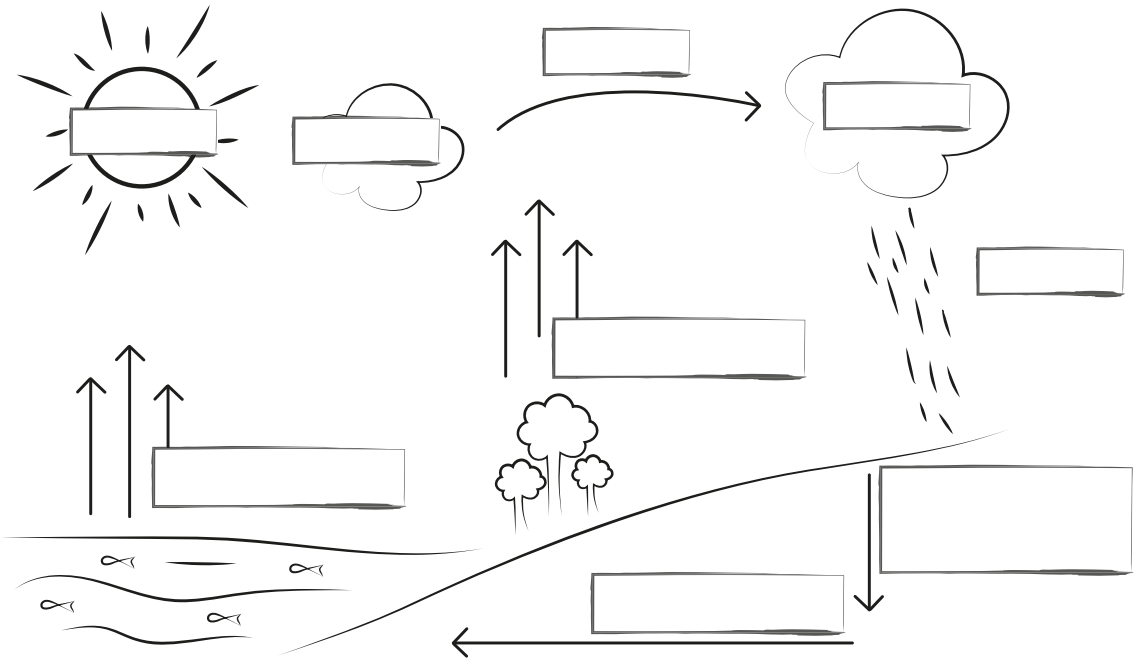
1 ACTIVITY 1: MIMIC THE WEATHER "WAVING"

Your teacher will read out a "weather report".
Use your hands to illustrate the weather!

2 ACTIVITY 2: UNDERSTAND THE DAY-TO-DAY WEATHER

Do you know how weather works?

Copy the diagram into your exercise book and label it with the right words.

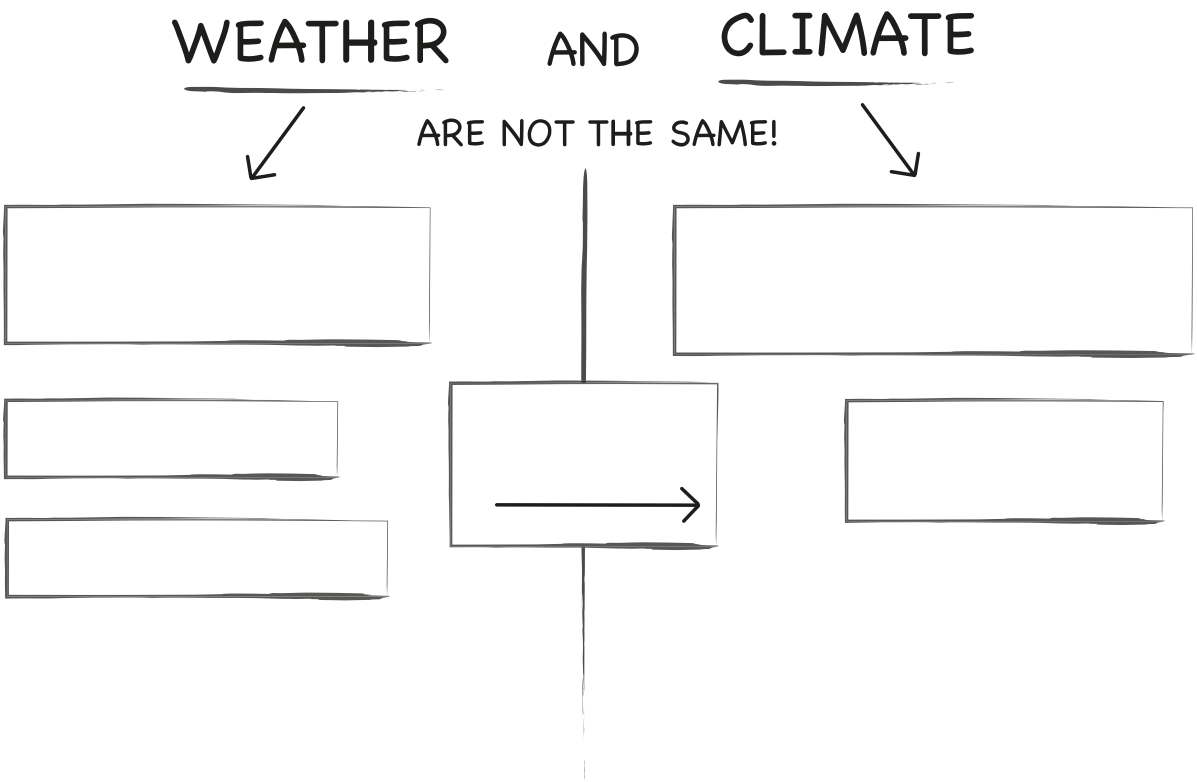


3 ACTIVITY 3: DISCUSS THE WEATHER AND CLIMATE

Weather = climate? Climate ≠ weather?

Do you know the difference?

Listen to the teacher and copy the diagram and the definitions into your exercise book.



LESSON 2

HOW DO FORESTS, WEATHER AND CLIMATE INTERACT?

2

1 ACTIVITY 1: EXPRESS YOUR OPINION ON THE LINK BETWEEN FORESTS AND WEATHER

Your teacher will read out eight statements. Are they right or wrong? Listen to the teacher's instructions and form a "line of opinion" for each statement.

2 ACTIVITY 2: REFLECT ON WHAT YOU LEARNED

What facts did you know already? Which ones did you find surprising?

LESSON 3

HOW CAN TREES COOL THE ENVIRONMENT?

3

1 ACTIVITY 1: APPRECIATE THE COOLING EFFECT OF TREES

Can you feel it?

Observe what you feel under the tree and under the sun.

How does it feel in the sun?

What do you feel?

How does it feel under the trees?

Do you notice a difference? Try to describe it.

2 ACTIVITY 2: DISCUSS HOW TREES HELP COOL THE ENVIRONMENT

What positive effect do trees have? Share some examples with your classmates, and then think about where trees and forests are located near you. Where would you like to have more trees? Why?

PREPARATION FOR THE NEXT LESSON

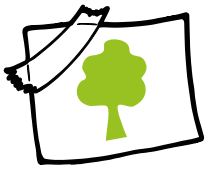
Find some images that you have at home that show why trees are important in villages, towns, cities or communities. If asked by the teacher, bring them with you to the next lesson.

LESSON 4

CREATE A POSTER ON WHY TREES MATTER

4

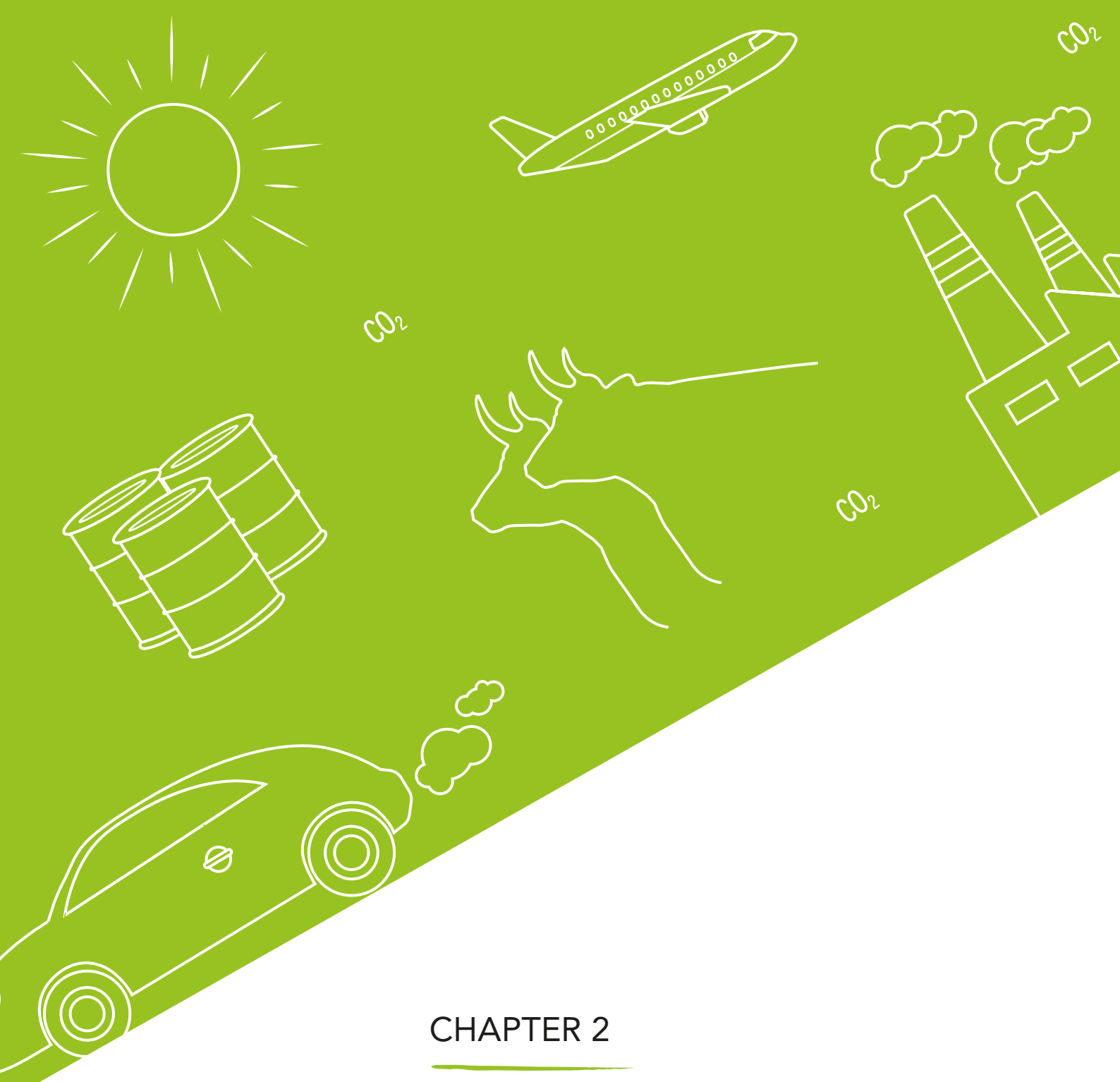
1 ACTIVITY 1: CREATE A POSTER ON THE IMPORTANCE OF TREES FOR PEOPLE



Work in groups to design a poster to explain why trees are important in a village, town, city or community.

KNOWLEDGE CHECK - CHAPTER 1

1. What is the difference between climate and weather?
2. Can you explain the relationship between forests and climate?
3. How can trees affect temperatures in your surroundings?



CHAPTER 2

THE GREENHOUSE EFFECT AND CLIMATE CHANGE

© CC BY-SA 2.0 European Space Agency

In this chapter, you will learn how to:

1. describe the concepts of the greenhouse effect and climate change;
2. explain the difference between the natural and human-induced greenhouse effect;
3. explain the relationship between the human-induced greenhouse effect, climate change and forest degradation; and
4. explain how climate change affects people and forests.

LESSON 5

WHAT IS THE GREENHOUSE EFFECT?

5

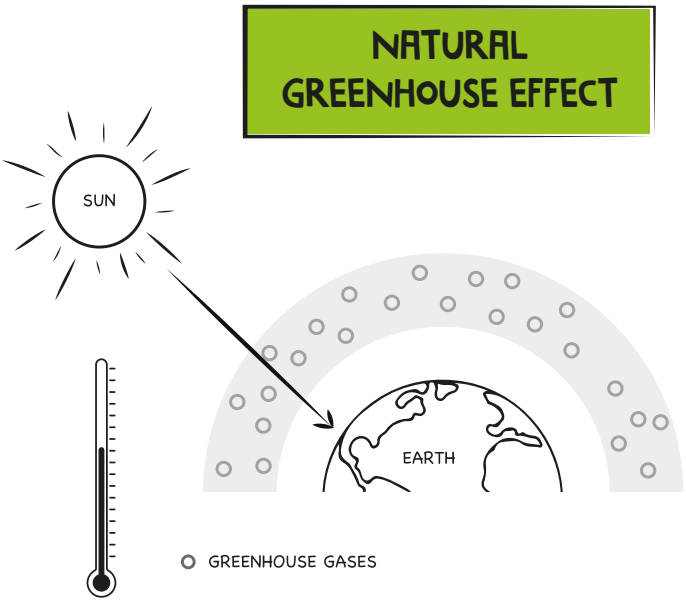
1 ACTIVITY 1: BRAINSTORM ON WHAT THE GREENHOUSE EFFECT IS

Have you ever heard of a greenhouse? The Earth works a bit like one, do you know how?

2 ACTIVITY 2: EXPLAIN THE HUMAN-INDUCED GREENHOUSE EFFECT

What happens in the atmosphere?

Copy the two illustrations with their headings and the corresponding sentences into your exercise book.



.....

.....

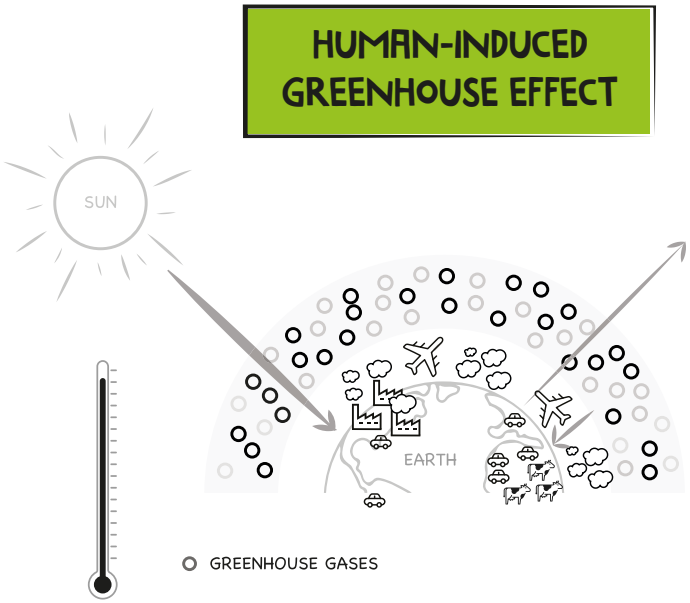
.....

.....

.....

.....

.....


HUMAN-INDUCED
GREENHOUSE EFFECT
SUN
EARTH
GREENHOUSE GASES

LESSON 6

PLAY A GREENHOUSE EFFECT GAME

6

1 ACTIVITY 1: MIMIC THE NATURAL GREENHOUSE EFFECT

Divide into two groups and play the game following your teacher's instructions.

2 ACTIVITY 2: UNDERSTAND THE HUMAN-INDUCED GREENHOUSE EFFECT

Play the game again but with more carbon dioxide molecules. How many heat rays return to the Earth's surface?

3 ACTIVITY 3: REFLECT ON WHAT YOU LEARNED

Did you see a difference? What do you think this shows us?

Which of the two variations of the game represented the natural and which the human-induced greenhouse effect?

Write the correct answer into your exercise book as your teacher dictates it.

LESSON 7

WHAT CAN WE DO ABOUT THE HUMAN-INDUCED GREENHOUSE EFFECT?

7

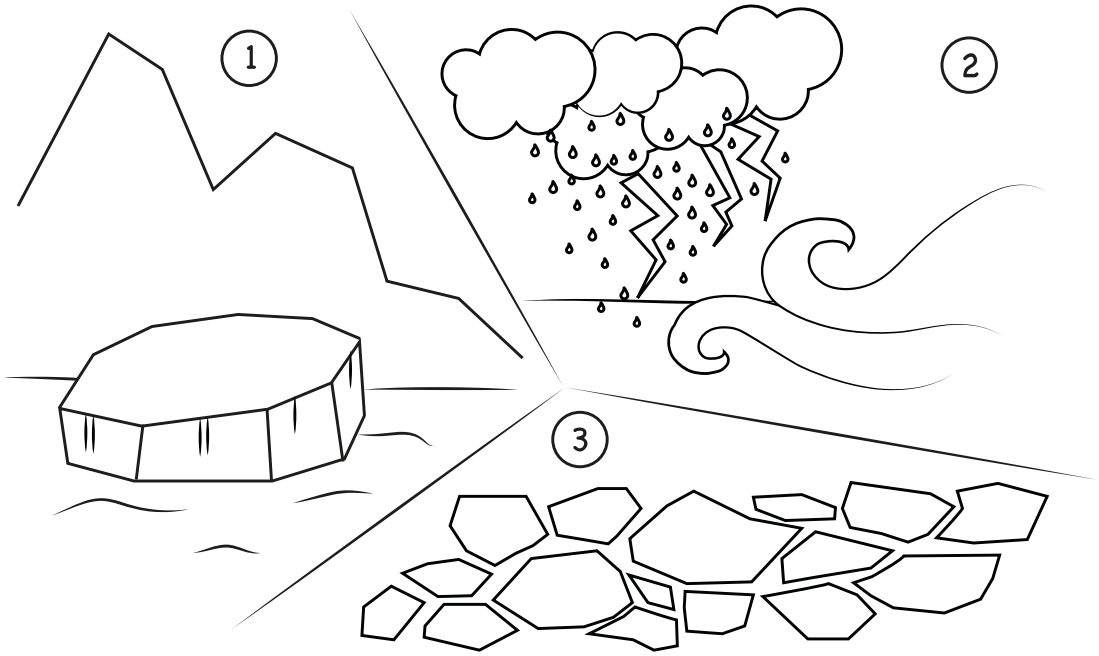
1 ACTIVITY 1: RECAP WHAT YOU PREVIOUSLY LEARNED

Take a moment to remember what you learned in the last lessons.

2 ACTIVITY 2: LEARN THE IMPACTS OF THE HUMAN-INDUCED GREENHOUSE EFFECT ON CLIMATE

What happens around the world?

Look at the pictures. What do you see? How do you think they can be related to the human-induced greenhouse effect?



3 ACTIVITY 3: BRAINSTORM ON WHERE THE HUMAN-INDUCED CARBON DIOXIDE EMISSIONS COME FROM AND HOW WE CAN REDUCE THEM

Where does the extra CO^2 come from?

Think about this and share your thoughts with the class.

Then, listen to your teacher's explanation of the various sources of carbon dioxide.

KNOWLEDGE CHECK – CHAPTER 2

1. What is the greenhouse effect?
2. What does climate change mean?
3. What is the difference between the natural and human-induced greenhouse effect?
4. Can you explain the relationship between the human-induced greenhouse effect and climate change?
5. How does climate change affect people and nature?

PREPARATION FOR THE NEXT LESSON

If asked by the teacher, bring in a green leaf and a stone about five centimetres in size.

CHAPTER 3

PHOTOSYNTHESIS

© CC BY-SA 2.0 Susanne Nilsson on Flickr

In this chapter, you will learn how to:

1. describe what photosynthesis is and how plants and trees use it to feed themselves;
2. explain chlorophyll and its function in photosynthesis; and
3. explain the importance of photosynthesis for regulating global warming and supporting life on Earth.

LESSON 8

CONDUCT A LEAF EXPERIMENT

8

1 ACTIVITY 1: BRAINSTORM ON THE ROLE OF LEAVES

What do you think tree leaves are for? Share some ideas with your teacher and classmates.

2 ACTIVITY 2: EXPERIMENT ON CRUSHING LEAVES

You have a leaf, a small stone and a sheet of paper. Listen to your teacher explain the instructions for this activity and see what happens where you crush a leaf.

LESSON 9

HOW DOES PHOTOSYNTHESIS WORK?

9

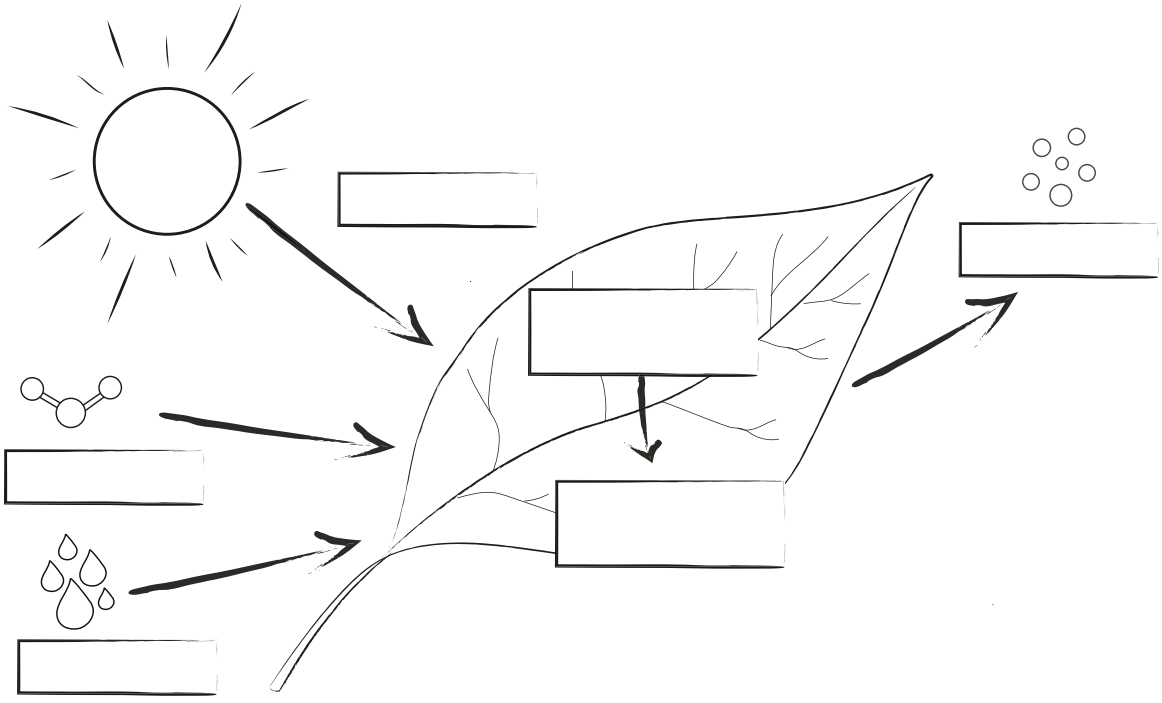
1 ACTIVITY 1: LEARN HOW PHOTOSYNTHESIS WORKS

That's genius!

Take a few minutes to review what you learned in the previous lesson, then listen to the teacher's explanation of photosynthesis.

Finally, copy the picture below into your exercise book and label it with the terms below.

CARBON DIOXIDE – SOLAR ENERGY (SUNLIGHT) – WATER – OXYGEN – CLOROPHYLL – GLUCOSE



Write down how photosynthesis works by copying the sentences from the blackboard into your exercise book.

1. .....

.....

.....

2. .....

.....

.....

3. .....

.....

.....

4. .....

.....

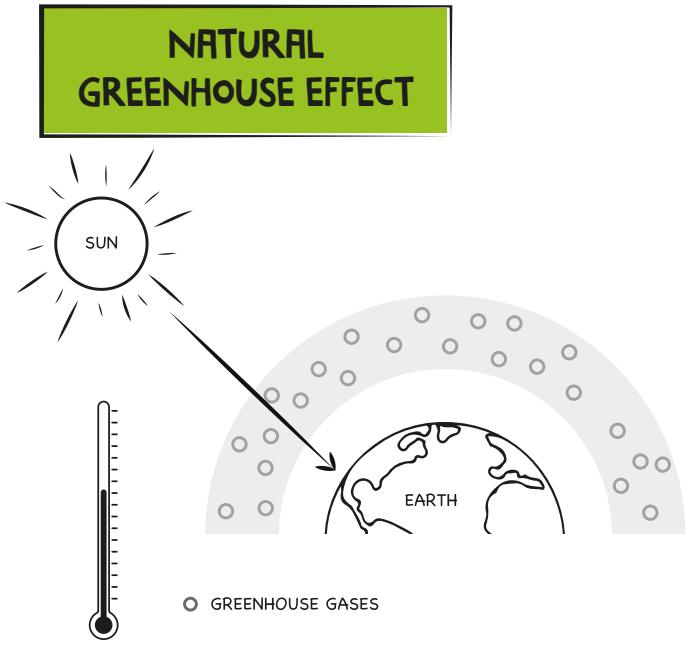
.....

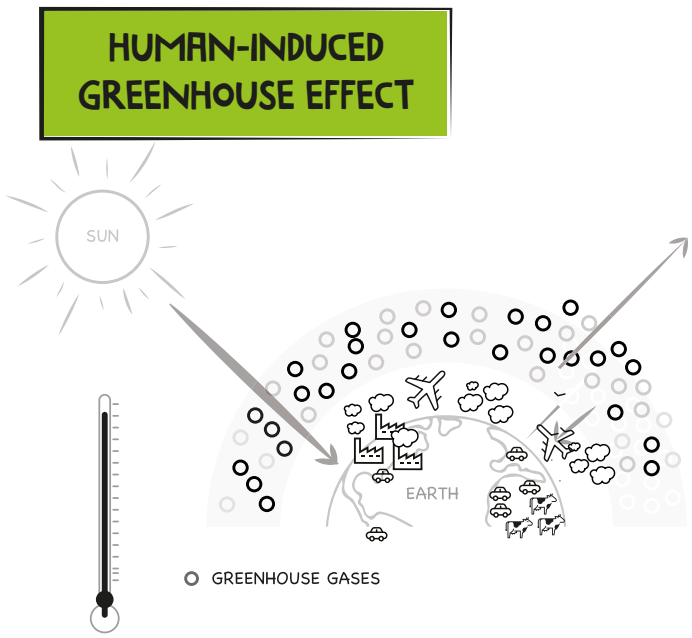
2 ACTIVITY 2: DISCUSS LINKS BETWEEN PHOTOSYNTHESIS AND THE GREENHOUSE EFFECT

Why is photosynthesis is important?

Do you remember what the greenhouse effect is? Take some time to review what you learned in the previous lesson.

Why do you think photosynthesis and plants are important for our climate?





What is the greenhouse effect?

Where does carbon dioxide come from?

Why does the greenhouse effect cause climate change now?

What causes the greenhouse effect?

LESSON 10

RUN A PHOTOSYNTHESIS RELAY RACE

10

1 ACTIVITY 1: RECAP THE PHOTOSYNTHESIS PROCESS

Briefly review what you have learned so far. How does photosynthesis work?

2 ACTIVITY 2: PERFORM THE PHOTOSYNTHESIS PROCESS

Listen to the instructions of the game, then play the relay race to simulate the photosynthesis process.

LESSON 11

PLAY A PHOTOSYNTHESIS GUESSING GAME

11

1 ACTIVITY 1: GUESS THE CORRECT ANSWER ON PHOTOSYNTHESIS

Divide into teams and play a quiz to test your knowledge.

How many correct answers can you get?

2 ACTIVITY 2: DISCUSS THE IMPORTANCE OF PHOTOSYNTHESIS FOR THE CLIMATE

How can we use trees to reduce global warming?

Take a look at the sentences on the blackboard and copy them in your exercise book. You can also find them below.

Then, take some time to reflect: how can we increase the contributions of trees and wood to combating climate change?

Sentences:

1. There is too much carbon dioxide in the air, mainly because humans are burning so much coal, oil and gas.
2. Photosynthesis is sometimes called the basis of life because it produces oxygen, which humans and other animals need to breathe, and glucose, which enables plants to grow.
3. Trees can help reduce global warming by capturing carbon dioxide from the air through photosynthesis and storing it as carbon when they make wood.

KNOWLEDGE CHECK – CHAPTER 3

1. What is photosynthesis?
2. How do plants feed themselves through photosynthesis?
3. What is chlorophyll and why is it so important for photosynthesis?
4. Can you explain the important role of photosynthesis for life on Earth?

PREPARATION FOR THE NEXT LESSON

Look around at school, at home and outside to see if you can identify any forest products that are used to produce energy (e.g. wood for cooking or heating).

© CC BY-SA 2.0 Susanne Nilsson on Flickr

CHAPTER 4

WOOD AND OTHER SOURCES OF RENEWABLE ENERGY

© (cc) BY-SA 2.0 Jens Cedergkiold on Flickr

In this chapter, you will learn how to:

1. provide a basic definition of energy;
2. describe the differences between renewable and non-renewable energy, and identify and explain the different types of renewable energy; and
3. explain why it is essential to consider sustainability when using wood as an energy source, and understand the main advantages and disadvantages of wood energy.

LESSON 12

WHAT ARE THE SOURCES OF ENERGY?

12

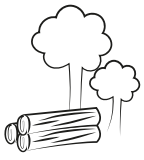
1 ACTIVITY 1: BRAINSTORM ON ENERGY SOURCES

How can we define energy? What sources of energy do you normally use at school and at home? Do you know where energy comes from? Share your answers and thoughts with the rest of the class.

Did you know that energy sources can be renewable or non-renewable? Do you know the difference?

2 ACTIVITY 2: EXPLORE ENERGY SOURCES AND TECHNOLOGIES FOR USING THEM

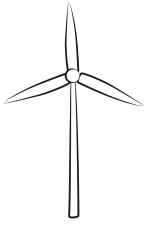
Copy the drawings below into your exercise book. Can you match each energy source with the technology that uses it?



BIOMASS, INCLUDING WOOD

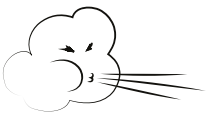
HYDROELECTRICITY POWER STATION

SOLAR PANELS



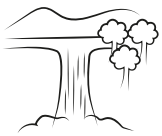
WIND TURBINE

SUN



WIND

WOOD-BURNING STOVE



WATER

PREPARATION FOR THE NEXT LESSON

In the next lesson we will build an imaginary fire in the schoolyard. If asked by the teacher, look for small sticks, branches and pieces of wood that we would use to build a fire and bring them to class.

LESSON 13

FOCUS ON FIRE

13

1 ACTIVITY 1: LEARN THE RULES FOR DEALING WITH FIRE

In this lesson, you will make an imaginary fire. However, whenever you are near a real fire, you should always adhere to the following rules to ensure safety:

1. Always remain calm and focused and stand at a safe distance from the fire.
2. Only set fires in open areas, with no nearby flammable materials such as dried grass or scrub.
3. Avoid lighting fires in hot, dry, windy conditions.
4. Never leave a fire unattended.
5. Have a bucket of water nearby in case the fire escapes.
6. Do not play with fire!

2 ACTIVITY 2: EXPLORE THE HUMAN-INDUCED GREENHOUSE EFFECT

Pretend you are sitting around a big fire. Try to imagine the sensations of it, such as the heat, the colour of the flames, the smell of the smoke and the sound of the crackling wood. What does building a fire have to do with energy? What two things do wood fires produce?

LESSON 14

WHAT IS RENEWABLE ENERGY?

14

1 ACTIVITY 1: DISCUSS THE ADVANTAGES AND DISADVANTAGES OF WOOD ENERGY

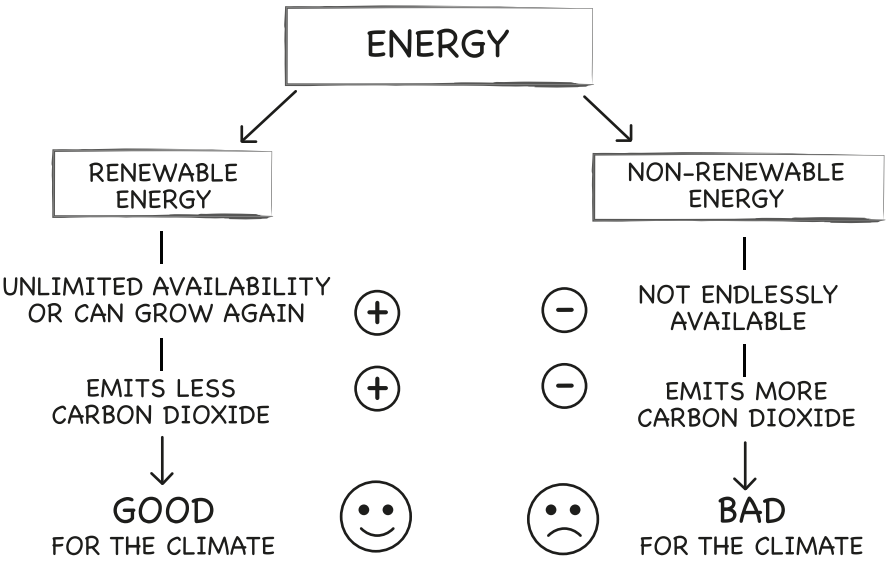
Think about the following questions. Write down the answers in your exercise book.

What are the advantages of using wood as an energy source?	What are the disadvantages of using wood as an energy source?
↓	↓
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

2 ACTIVITY 2: LEARN THE DIFFERENCE BETWEEN RENEWABLE AND NON-RENEWABLE ENERGY

Good or bad for climate?

Take a look at the diagram on the blackboard and below, then copy the statements into your exercise book.



3 ACTIVITY 3: REPEAT WHAT YOU LEARNED

Be careful with wood as an energy source!

Think about the two questions below, then write down the answers from the blackboard into your exercise book.

Is wood a renewable or a non-renewable energy source?

How can we use wood as an energy source carefully and responsibly?

.....

.....

.....

.....

KNOWLEDGE CHECK - CHAPTER 4

1. What is energy?
2. What are the differences between renewable and non-renewable energy?
3. Can you name four different types of renewable energy?
4. How can you use wood as an energy source carefully and responsibly?

© CC BY-SA 2.0 Jens Cederskjold on Flickr

CHAPTER 5

SUSTAINABLE FOREST MANAGEMENT

In this chapter, you will learn how to:

1. explain the concept of sustainable forest management;
2. understand the principles of sustainable forest management; and
3. describe the consequences of unsustainable forest management for people and nature.

LESSON 15

WHY DO WE NEED FORESTS?

15

1 ACTIVITY 1: DISCUSS WHY WE NEED FORESTS

There is a lot of forest in the United Republic of Tanzania!

Copy the table below into your exercise book. Complete the chart while listening carefully to your teacher and classmates.

⊕ WHY DO WE NEED FORESTS?	⊖ WHAT EFFECTS CAN HUMAN ACTIVITIES HAVE ON FORESTS?	→ SOLUTION! WHAT DOES SUSTAINABLE FORESTRY MEAN?

What is sustainable forest management?

Write down the explanation.

.....

.....

.....

.....

.....

.....

.....

.....

.....

PREPARATION FOR THE NEXT LESSON

If asked by the teacher, bring two sticks (length approx. 30 centimetres) to the next lesson.

LESSON 16

PLAY A SUSTAINABILITY GAME

16

1 ACTIVITY 1: APPRECIATE THE IMPORTANCE OF SUSTAINABILITY (GAME PREPARATION AND EXPLANATION)

Gather around the teacher and listen to the explanation of the game. You will then play it in the next activity.

2 ACTIVITY 2: APPRECIATE THE IMPORTANCE OF SUSTAINABILITY (GAME)

When the teacher gives the start signal, start collecting sticks according to the instructions received by your group. What happens in this game?

LESSON 17

CREATE A SUSTAINABLE FORESTRY MÖBIUS STRIP

17

1 ACTIVITY 1: DISCUSS THE IMPORTANCE OF SUSTAINABLE FORESTRY

Why is sustainable forest management important?

Write down the different reasons in your exercise book.

- .....
- .....
- .....
- .....
- .....

2 ACTIVITY 2: CREATE YOUR OWN MÖBIUS STRIP

A small piece of handicraft with great significance!

Follow the instructions from your teacher to make a Möbius strip. It symbolizes the never-ending functioning of sustainable forest management!

KNOWLEDGE CHECK - CHAPTER 5

1. What does sustainable forest management mean?
2. What are the basic principles of sustainable forest management?
3. What are the consequences of unsustainable forest management for people and nature?

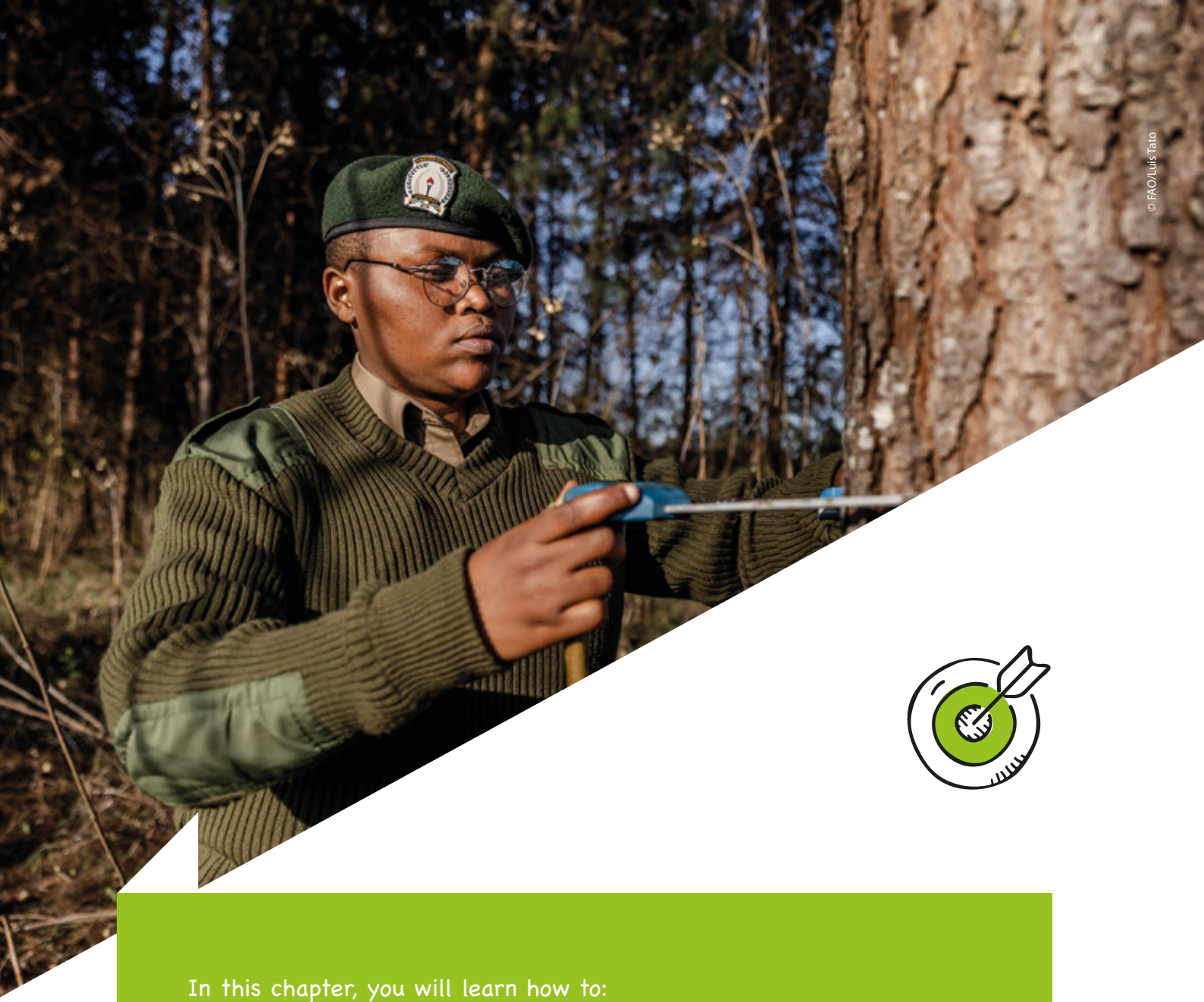
PREPARATION FOR THE NEXT LESSON

Think about why we need laws. You can also talk to your family about it. Write down your ideas and bring them for the next lesson.

© FAO/Luis Tato

CHAPTER 6

FOREST AND BEEKEEPING LAWS



© FAO/Luis Tato

In this chapter, you will learn how to:

1. explain the concepts behind the forest and beekeeping laws of the United Republic of Tanzania;
2. understand the main forest and beekeeping laws in the United Republic of Tanzania; and
3. explain why these laws are important.

LESSON 18

WHY DO WE NEED FOREST LAWS?

18

1 ACTIVITY 1: BRAINSTORM ON THE IMPORTANCE OF RULES

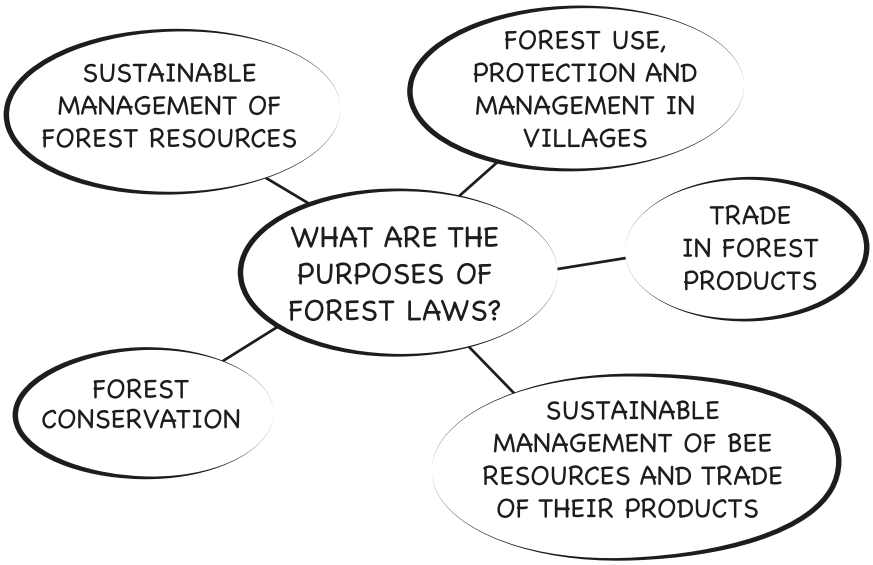
Why do we need laws?

What would happen if everyone in the United Republic of Tanzania could do whatever they wanted without consequences?
Think about this and share your thoughts with others.

2 ACTIVITY 2: LEARN ABOUT THE PURPOSE OF FOREST AND BEEKEEPING LAWS

Why do we need special forest laws?

Discuss the various purposes and some examples in class. Then, copy the mind map into your exercise book.



LESSON 19

ALLOWED OR NOT?

19

1 ACTIVITY 1: UNDERSTAND WHAT IS PERMITTED IN A FOREST

Listen to the rules of the game explained by your teacher. You will play a game about what people are, and are not, allowed to do in forests in the United Republic of Tanzania.

2 ACTIVITY 2: RECAP WHAT YOU LEARNED

Gather around the teacher and secretaries from each group to learn if the statements were true or false. How many did you guess correctly?

LESSON 20

PLAY A FOREST LAW GUESSING GAME

20

1 ACTIVITY 1: DESCRIBE WHAT IS PERMITTED IN A FOREST

Let´s play a guessing game!

Choose whether the statement is true or false. Copy the statements with the correct answers from the blackboard into your exercise book.

2 ACTIVITY 2: REFLECT ON WHAT YOU HAVE LEARNED

Why it is essential to have laws?

Answer the following question and write both the question and answer into your exercise book.

What is the objective of forest law?

.....

.....

.....

.....

.....

KNOWLEDGE CHECK - CHAPTER 6

1. What are examples of forest and beekeeping laws?
2. Why do we need forest and beekeeping laws?
3. What are the main laws related to beekeeping and forests in the United Republic of Tanzania?

PREPARATION FOR THE NEXT LESSON

Ask your parents, grandparents, relatives or neighbours the question:
"What do you think a forester does?"

CHAPTER 7

THE WORK OF A FORESTER

© FAO/Luis Tato

In this chapter, you will learn how to:

1. define a forester and describe the many tasks of a Tanzanian forester;
2. discuss why the forestry profession is important for forests, people and the planet; and
3. explain how foresters are trained in the United Republic of Tanzania.

LESSON 21

WHAT DOES A FORESTER DO?

21

1 ACTIVITY 1: MAKE A MIND MAP ON THE TASKS OF A FORESTER

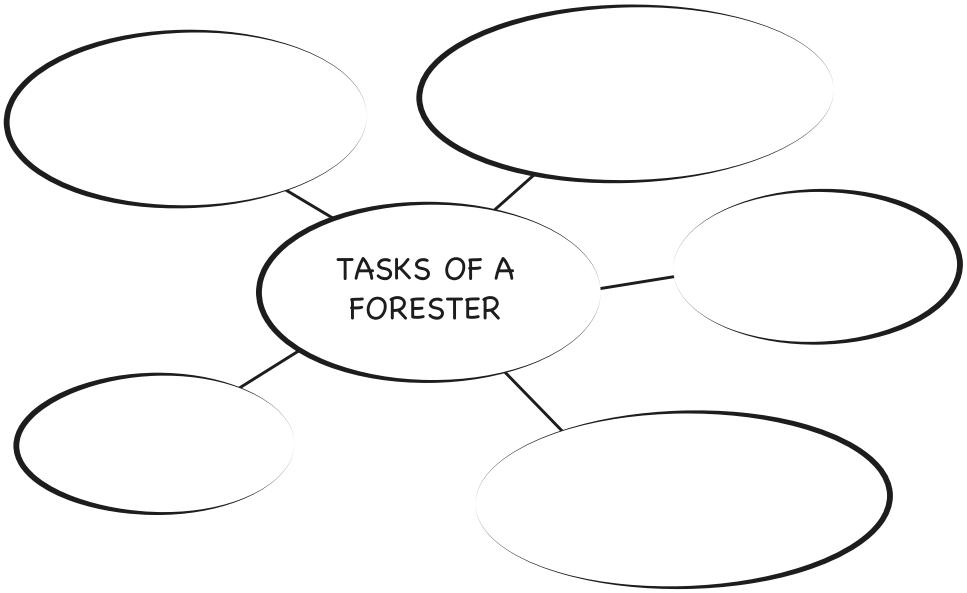
Do you know all about the tasks of a forester?

Answer the following questions.

Can you name some tasks of a forester?

What did you find out from your family, friends and neighbours?

Discuss in class to complete the mind map, then copy it into your exercise book.



2 ACTIVITY 2: MIME THE TASKS OF A FORESTER

Some of you will now mime a few of a forester's tasks from the mind map and the rest of the class will try to guess the tasks. Remember, you should only use gestures!

PREPARATION FOR THE NEXT LESSON

If asked by the teacher, bring a cap, handkerchief or piece of cloth to the next lesson. These will serve as team markers in the forest resources game.

LESSON 22

WHAT HAPPENS WHEN WE OVERUSE FOREST RESOURCES?

22

1 ACTIVITY 1: UNDERSTAND THE IMPLICATIONS OF OVERUSING FOREST RESOURCES

This game is about consuming forest resources (such as wood, food and medicines). Listen carefully to the rules of the game and then start playing when your teacher gives the signal.

LESSON 23

HOW DO YOU BECOME A FORESTER?

23

1 ACTIVITY 1: DISCUSS THE IMPORTANCE OF FOREST MANAGEMENT

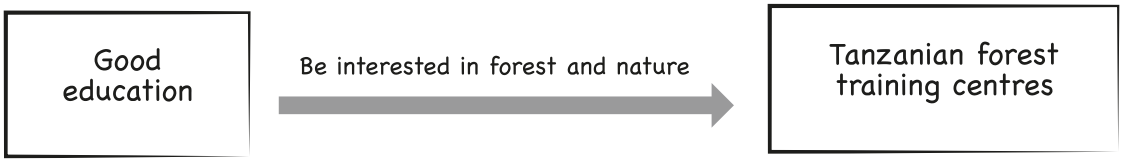
What can we do?

Discuss what you observed during the forest resources game. Who can help prevent the overuse of forest resources?

Copy the answer on the blackboard in your exercise book.

2 ACTIVITY 2: UNDERSTAND HOW TO BECOME A FORESTER

Can you study forestry in the United Republic of Tanzania?



3 ACTIVITY 3: EXPLORE OTHER FOREST-RELATED PROFESSIONS

Are there more jobs related to the forest?

Play a guessing game to learn more about other forest-related professions, then write them down in your exercise book.

KNOWLEDGE CHECK - CHAPTER 7

1. What is a forester?
2. What are the tasks of a forester?
3. Why is the forester profession important?
4. How can you become a forester in the United Republic of Tanzania?

PREPARATION FOR THE NEXT LESSON

Reflect on what you have learned throughout the module about weather, climate and forests.
Consider the following questions:

- What is the human-induced greenhouse effect?
- What does the human-induced greenhouse effect have to do with climate change?
- How can forests help protect us from the impacts of climate change?

CHAPTER 8

FORESTS AND CLIMATE

WHAT WE CAN DO

© FAO/IRMedia

In this chapter, you will learn how to:

1. explain the significance of the human-induced greenhouse effect;
2. describe the importance of forests as a way of combating climate change;
3. protect forests and mitigate climate change; and
4. raise public awareness about the importance of forests.

LESSON 24

WHY DO FORESTS MATTER FOR CLIMATE CHANGE?

24

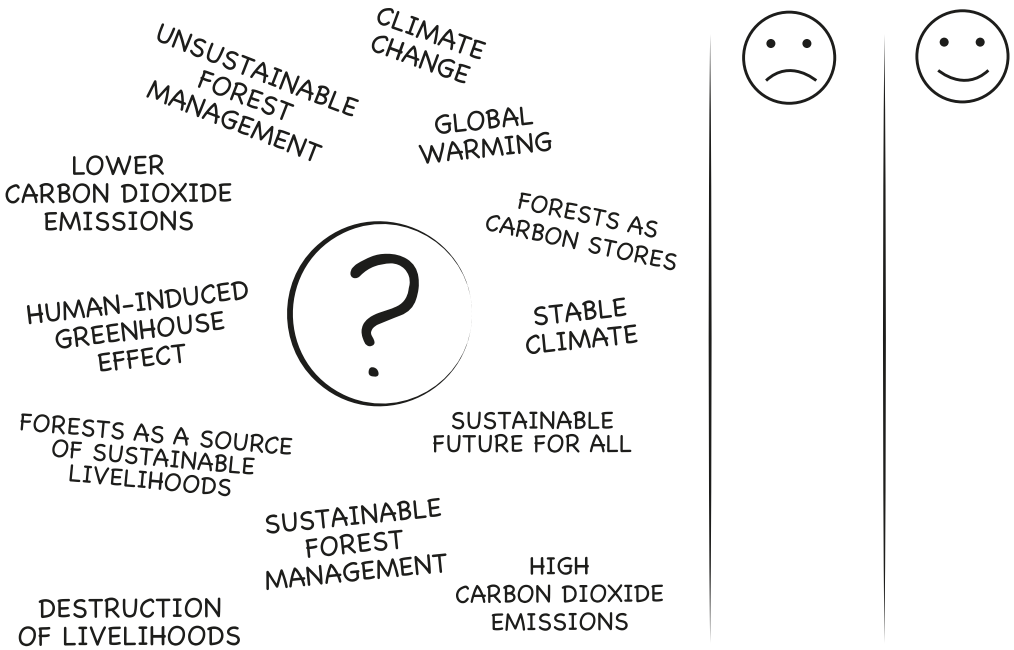
1 ACTIVITY 1: DISCUSS AND CONNECT THE GREENHOUSE EFFECT, CLIMATE CHANGE AND FORESTS

Our relation to forests and climate!

Decide if the terms belong to the positive way or the negative way.

Recognize the connections and arrange the content in a logical order.

Make two columns on a page in your exercise book with the happy face and the sad face.



Write the terms under the correct column so that each path becomes clear.

2 ACTIVITY 2: BRAINSTORM ON WHAT WE CAN DO FOR FOREST CONSERVATION

On your exercise book, create a list of things that you, your family and your class can do to conserve forests as a way of fighting climate change.

……..

……..

……..

……..

……..

……..

……..

……..

……..

LESSON 25

PREPARE A PLAY OR A POSTER ABOUT FORESTS AND CLIMATE

25

1 ACTIVITY 1: CREATE A POSTER OR A MINIPLAY ON THE IMPORTANCE OF FORESTS FOR CLIMATE

Be a publicist!

POSTER GROUP

1. Remember what you learned about forests and climate.
2. Decide together on your poster content.
3. Agree on the poster design.
4. Get to work!

THEATRE GROUP

1. Remember what you learned about forests and climate.
2. Decide together on the content of your scene.
3. Decide who will act and which roles they will play.
4. Practis your short theatre scene.

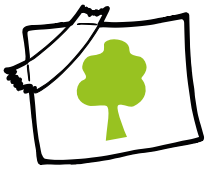
Your presentations in the next lesson must not be longer than 4 minutes.
Be creative!

LESSON 26

PERFORM A PLAY OR EXHIBIT A POSTER ABOUT FORESTS AND CLIMATE

26

1 ACTIVITY 1: EXPLAIN THE IMPORTANCE OF FORESTS FOR CLIMATE – POSTER EXHIBITION



Give a 4 minute presentation to explain the content of your poster!

2 ACTIVITY 2: CONVEY THE IMPORTANCE OF FORESTS FOR CLIMATE – THEATRE PERFORMANCE

Perform your 4 minute scene for your class!

KNOWLEDGE CHECK – CHAPTER 8

1. What are the human causes of the greenhouse effect?
2. What does the human-induced greenhouse effect mean for global climate change?
3. Can you describe the important role of forests as a climate change regulator?
4. How can we protect forests and mitigate climate change?
5. Forests are important! How can you raise public awareness to protect them and use them sustainably?

© FAO/IRMedia

ISBN 978-92-5-137694-2

9 789251 376942

CC4633EN/1/02.24